

# LR 495 Testimony

## Papio-Missouri River NRD

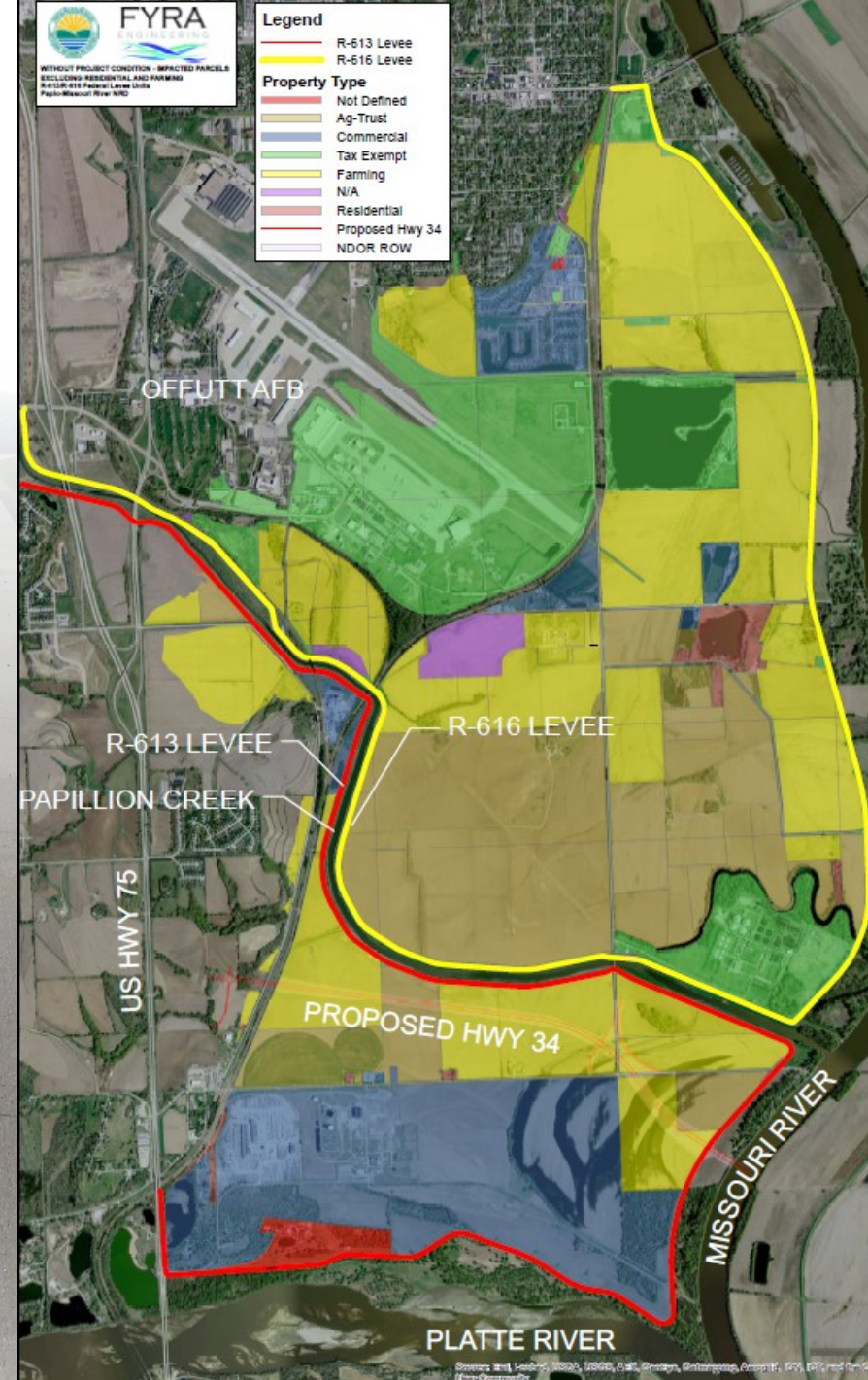
### 9 October 2012

Missouri River Federal Levee Systems  
R-613/616  
Michael K. Sotak, P.E.



# Levee System Background

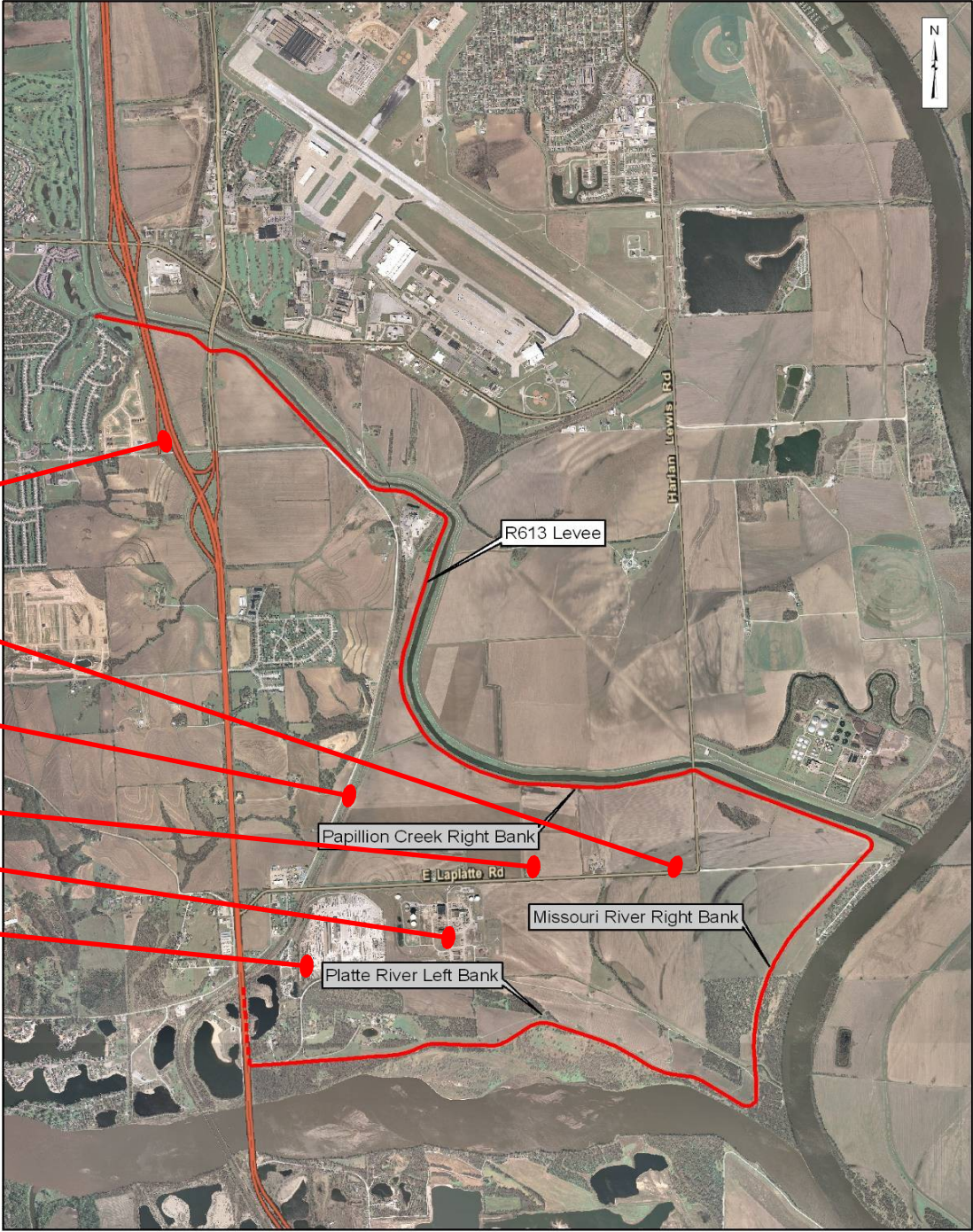
- Authorized in 1944
- Constructed in 1971
- 45 Levee Penetrations
- One Pumping Facility
- Protect 7,000 Acres



# R-613

**45,680 ft of Earthen  
Levee Protects**

- U.S. Hwy 75**
- Future U.S. Hwy 34**
- UPRR/BNSF RRs**
- Ag Land**
- Future Development**
- Residences/Business**



# R-616

**52,240 ft of Earthen  
Levee Protects  
US Hwy 370  
Residences/Business  
Portions of Offutt AFB  
UPRR/BNSF RRs  
Ag Land  
PCWWTF**



# System Water Resources

Platte River – 90,000 s.m.

Missouri River – 410,000 s.m.

Papillion Creek – 402 s.m.

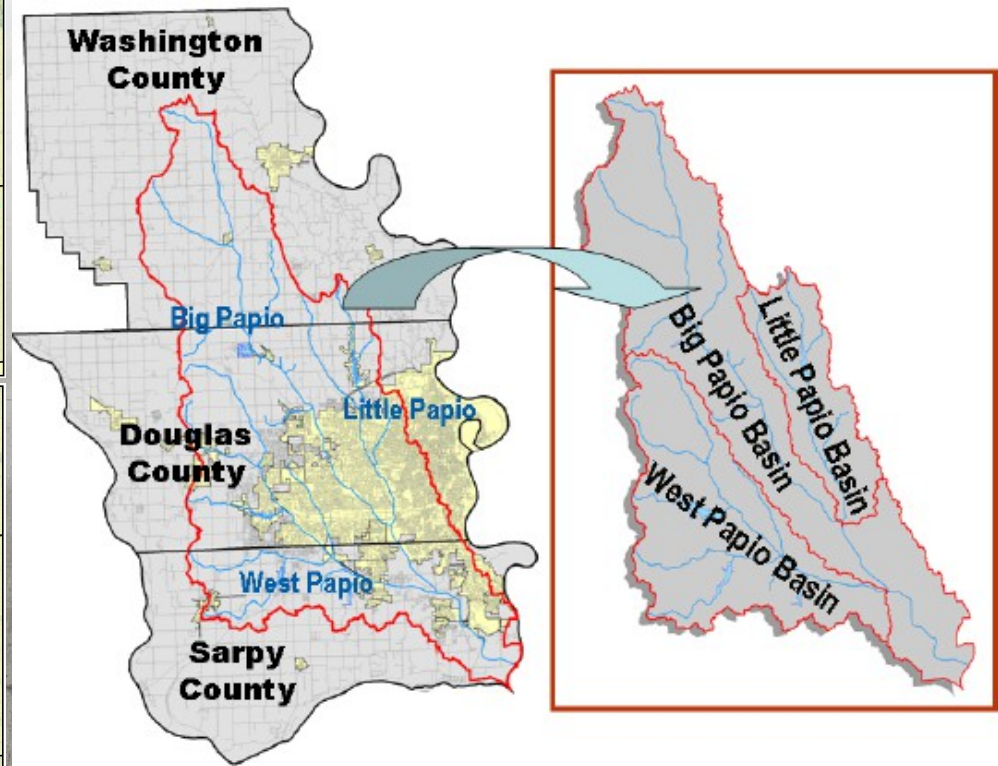
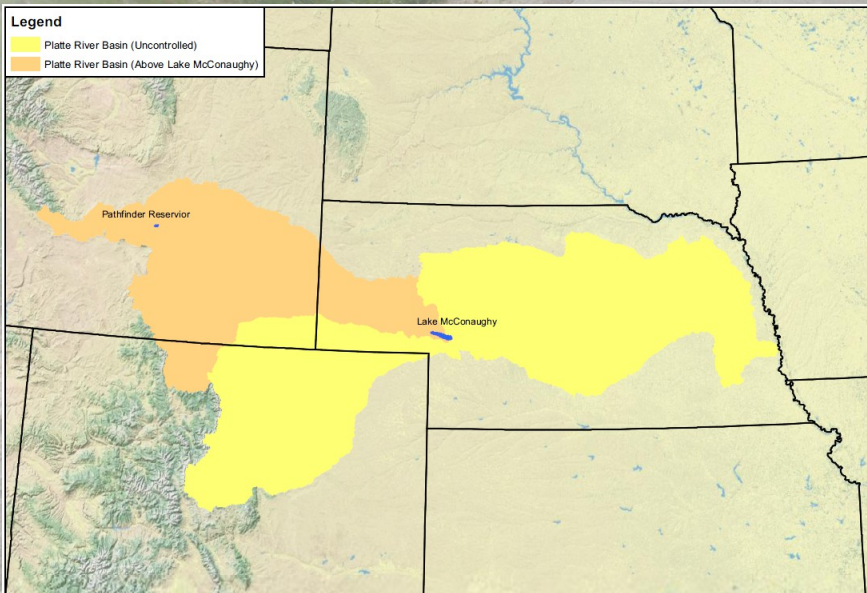
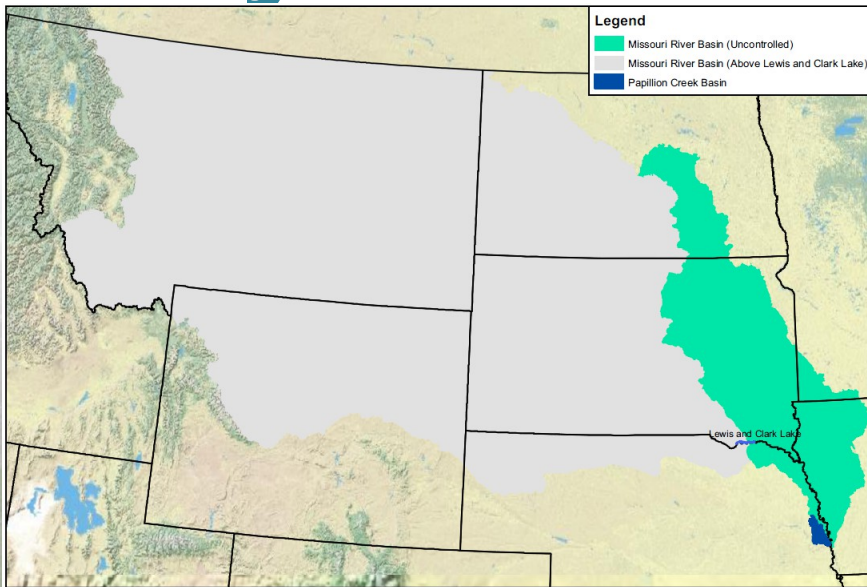


Image Source: PCWP Report, HDR, 2009

# Missouri River Flood - 2011



Photos Courtesy of Rick Anderson



## 44 CFR 65.10



Title 44 of the Code of Federal Regulations (44 CFR ) Section 65.10 provides the minimum design, operation and maintenance standards levee systems must meet and continue to meet in order to be recognized as providing protection from the base flood on a Flood Insurance Rate Map. Levee owners must provide appropriate data and documentation to demonstrate the levee is compliant with 44 CFR Section 65.10 requirements in order for the levee to be certified.

# Levee Certification

## Stakeholder Agencies



# FEMA

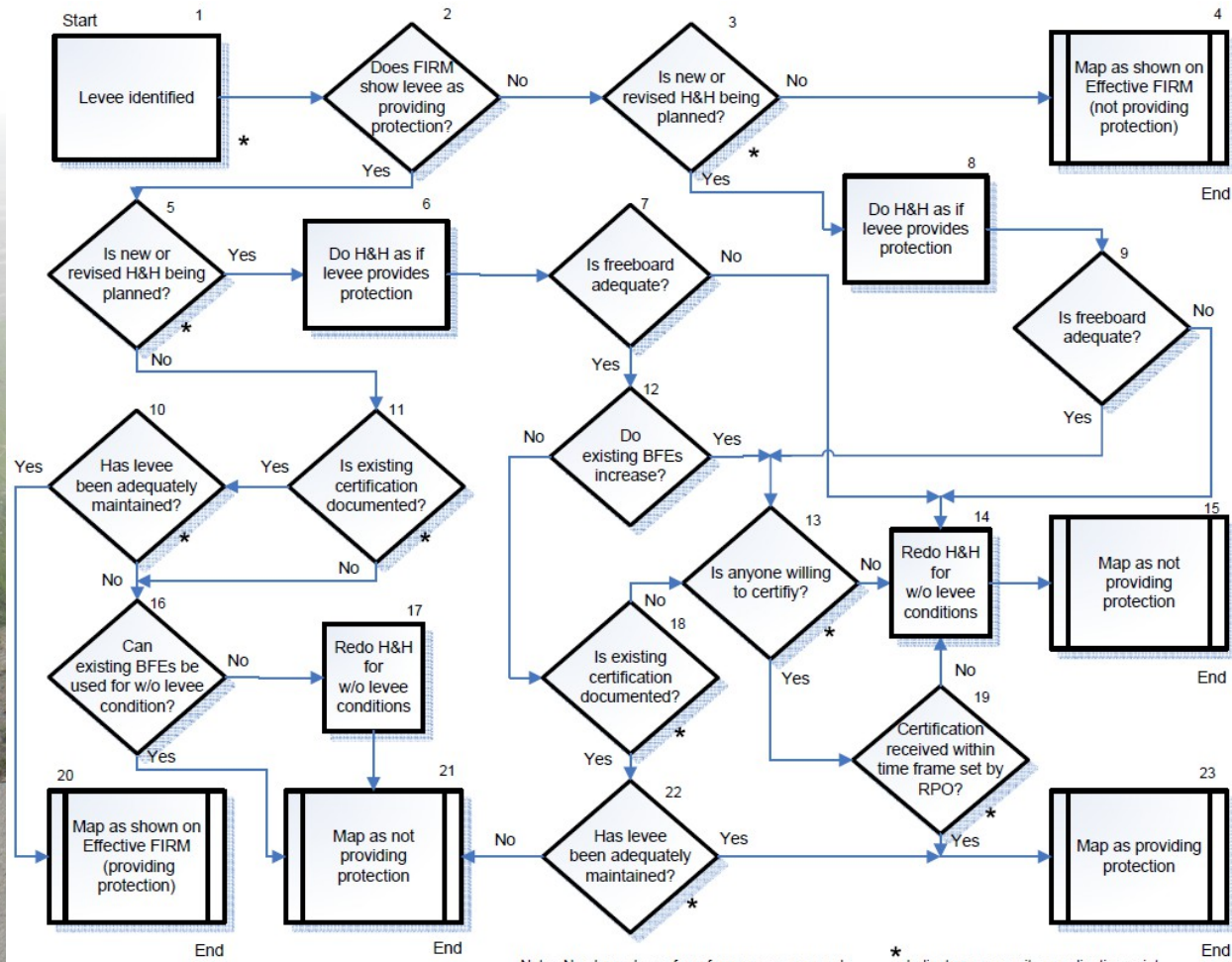
Responsible for Administering NFIP Including Levee Accreditation. Does not Provide Technical Guidance for Levee Design.



**US Army Corps  
of Engineers®**

Designed and Constructed Many of the Levees in the U.S. Provides Technical Guidance for Levee Design and Requires Section 408 Permitting.

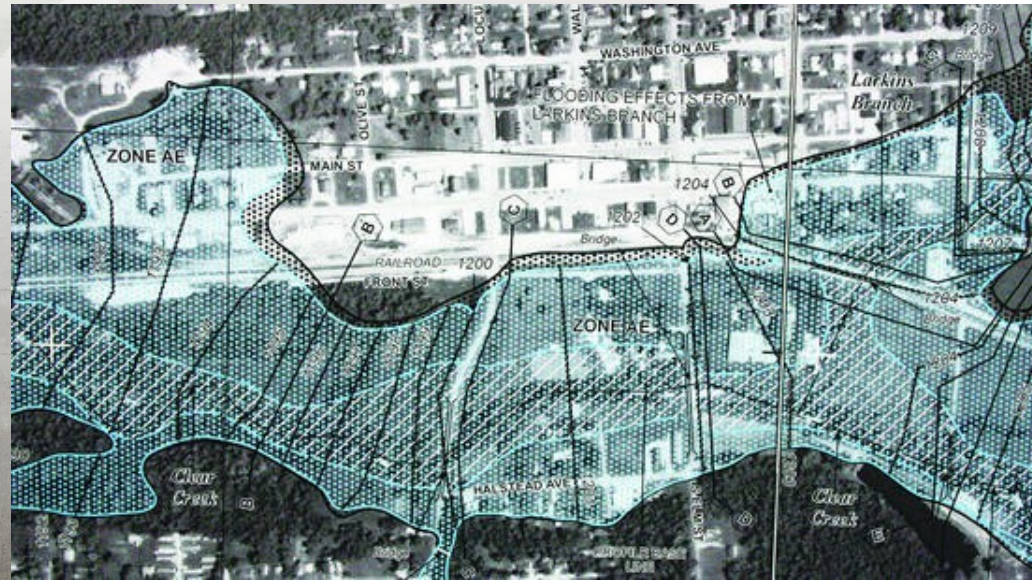
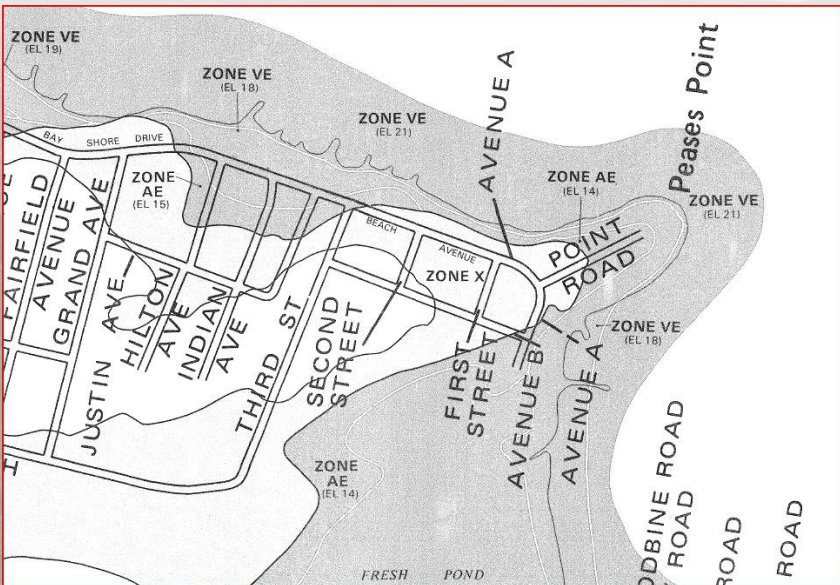
# Levee Certification



# Levee Certification

1. Levee Investigation
2. Analysis and Design
3. Levee Deficiency Design
4. Construction
5. FEMA Accreditation/Re-Mapping

## FEMA Map Modernization (NFIP)

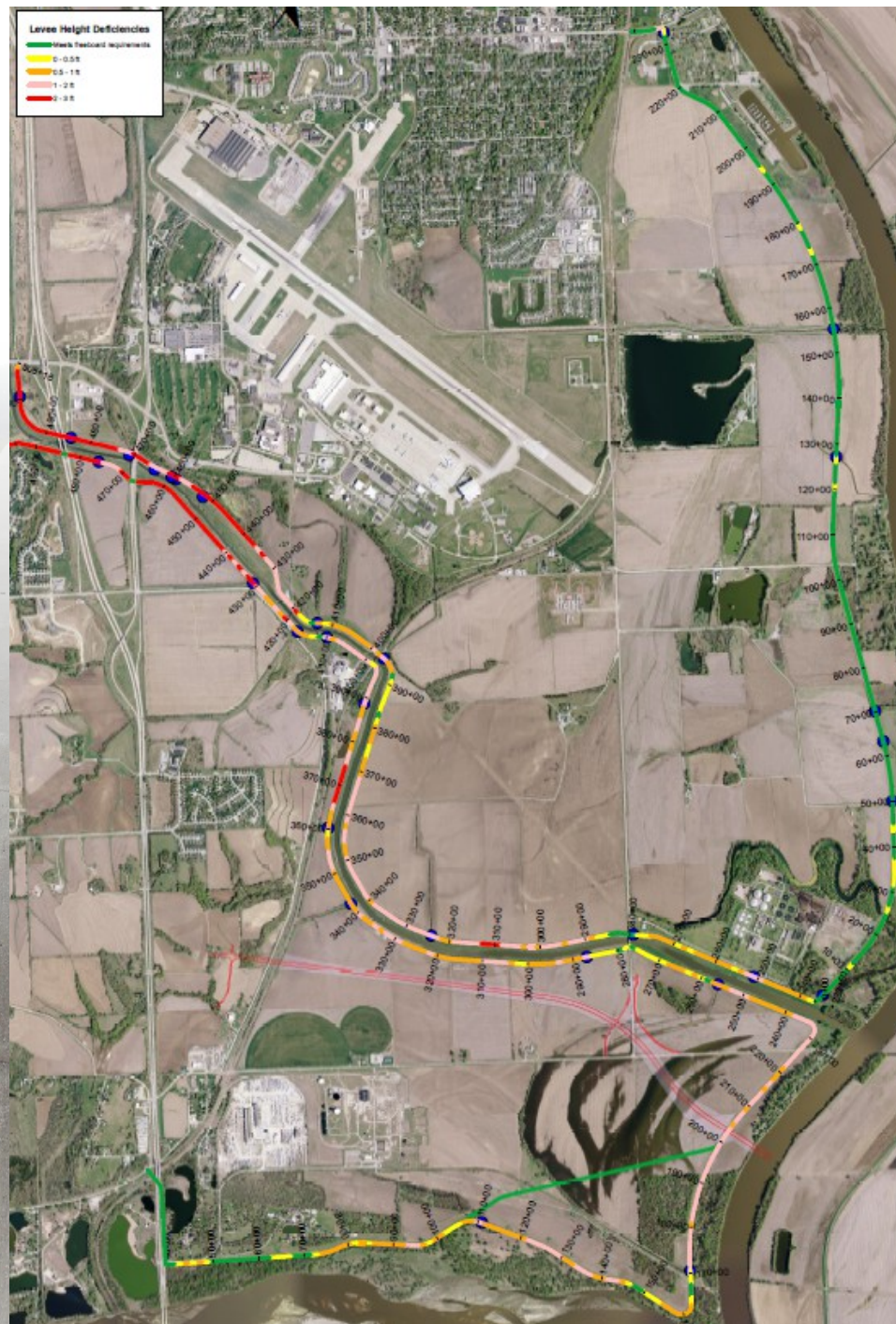


# Levee Certification

## Addressing Levee Deficiencies:

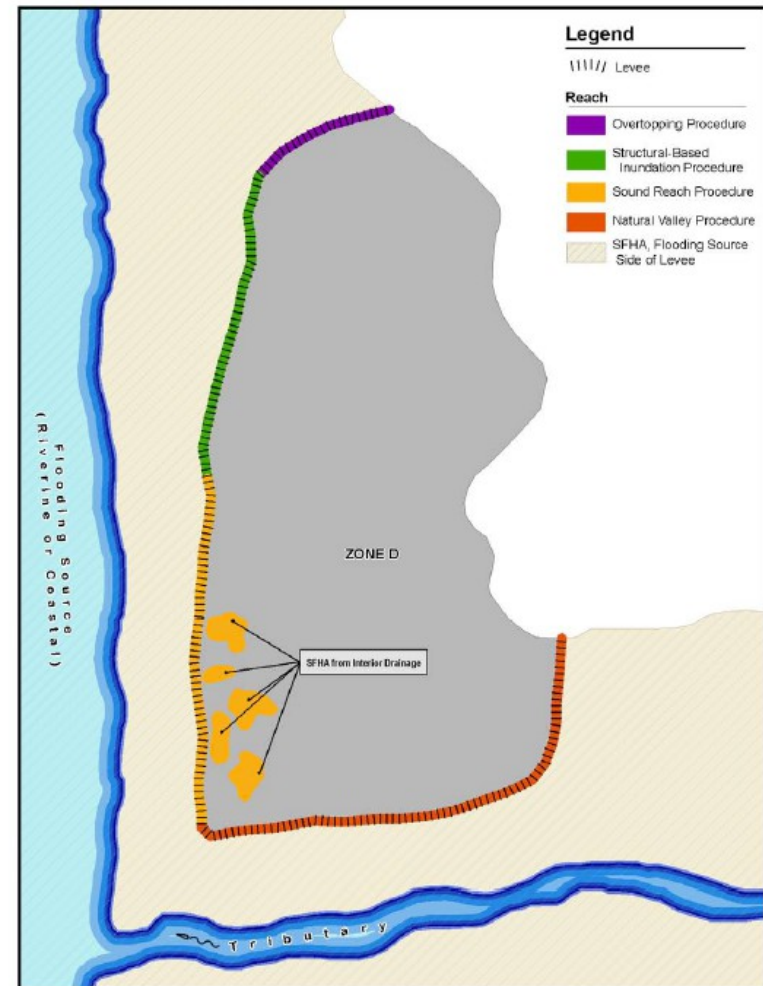
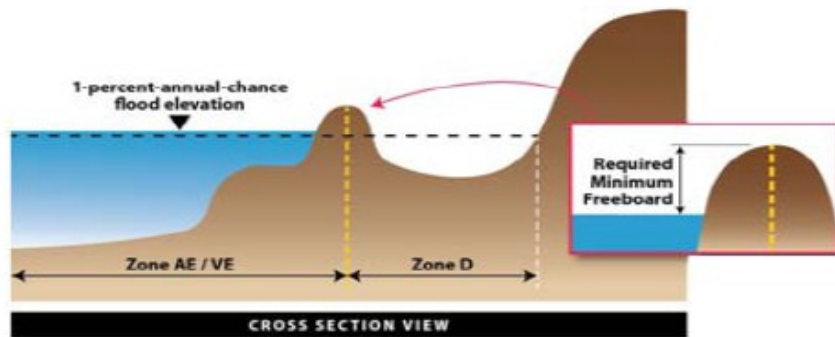
- Freeboard
- New Seepage Control Requirements
- General Maintenance Items

## Re-Mapping



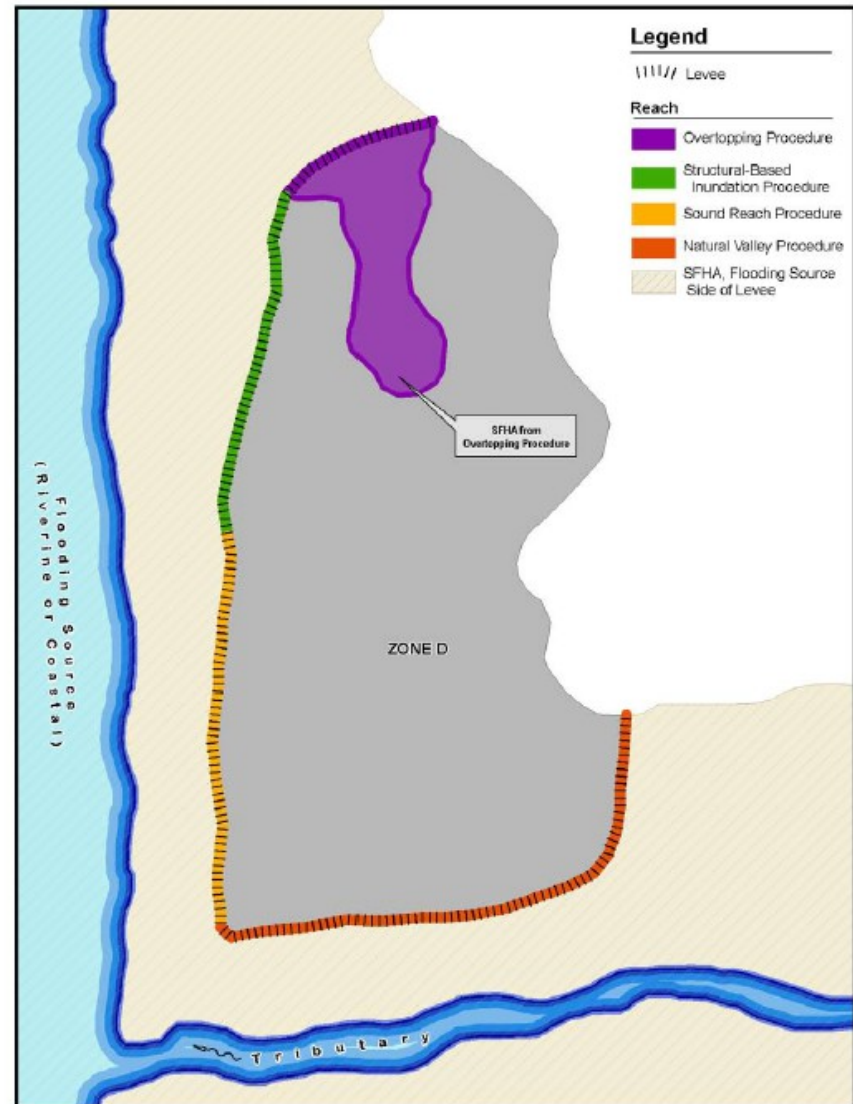
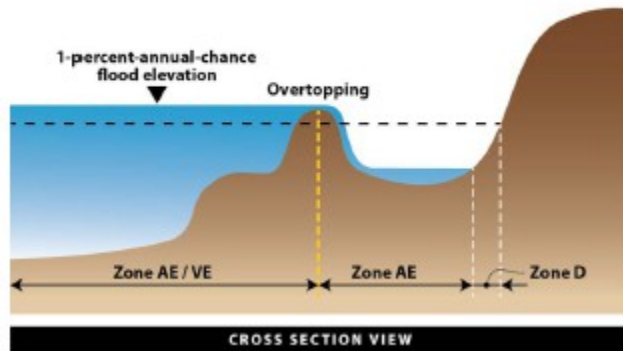
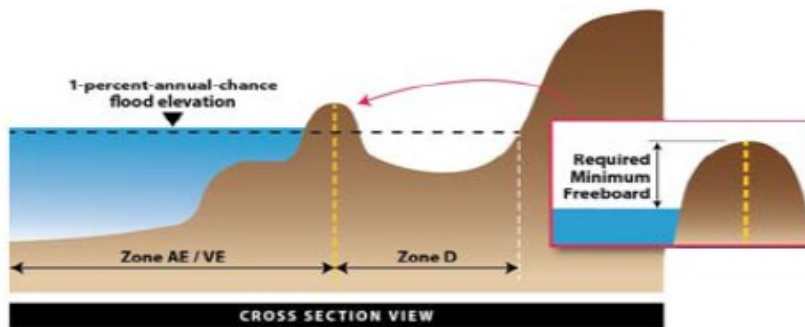
# Levee Re-Mapping

## Sound Reach Section



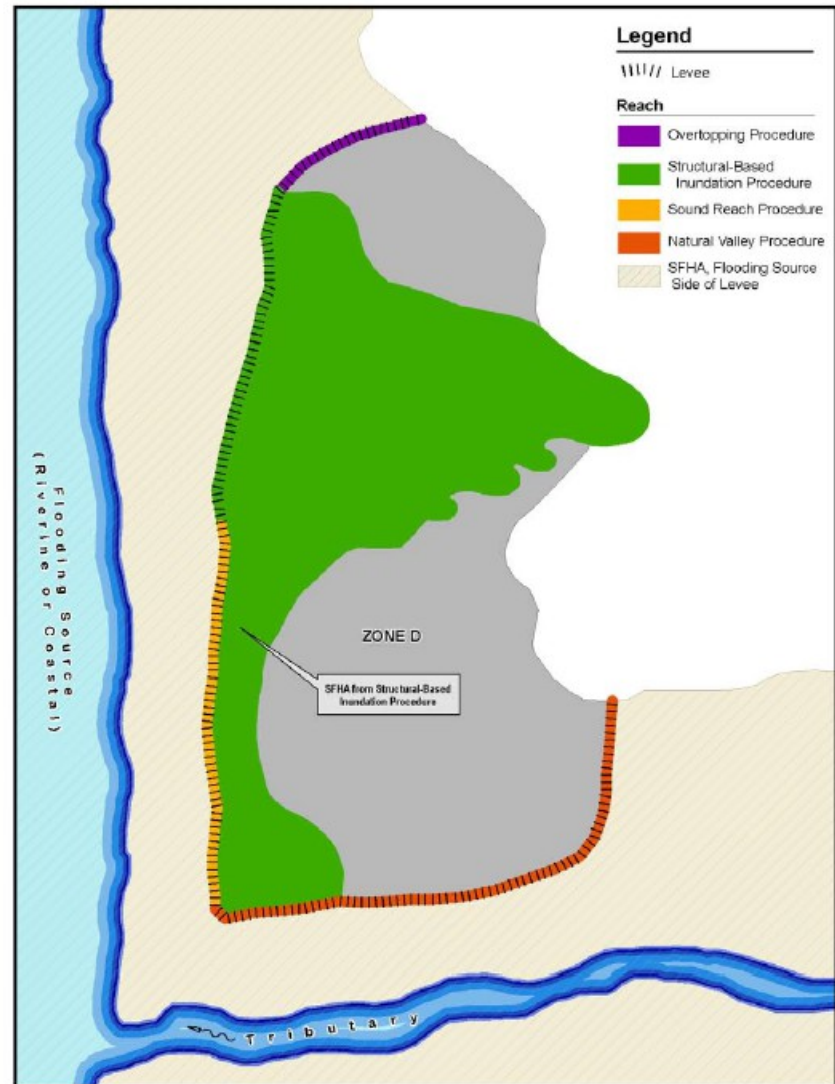
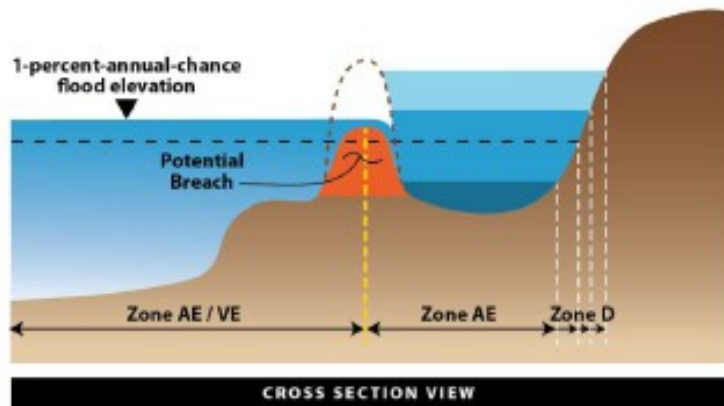
# Levee Re-Mapping

## Freeboard Deficient



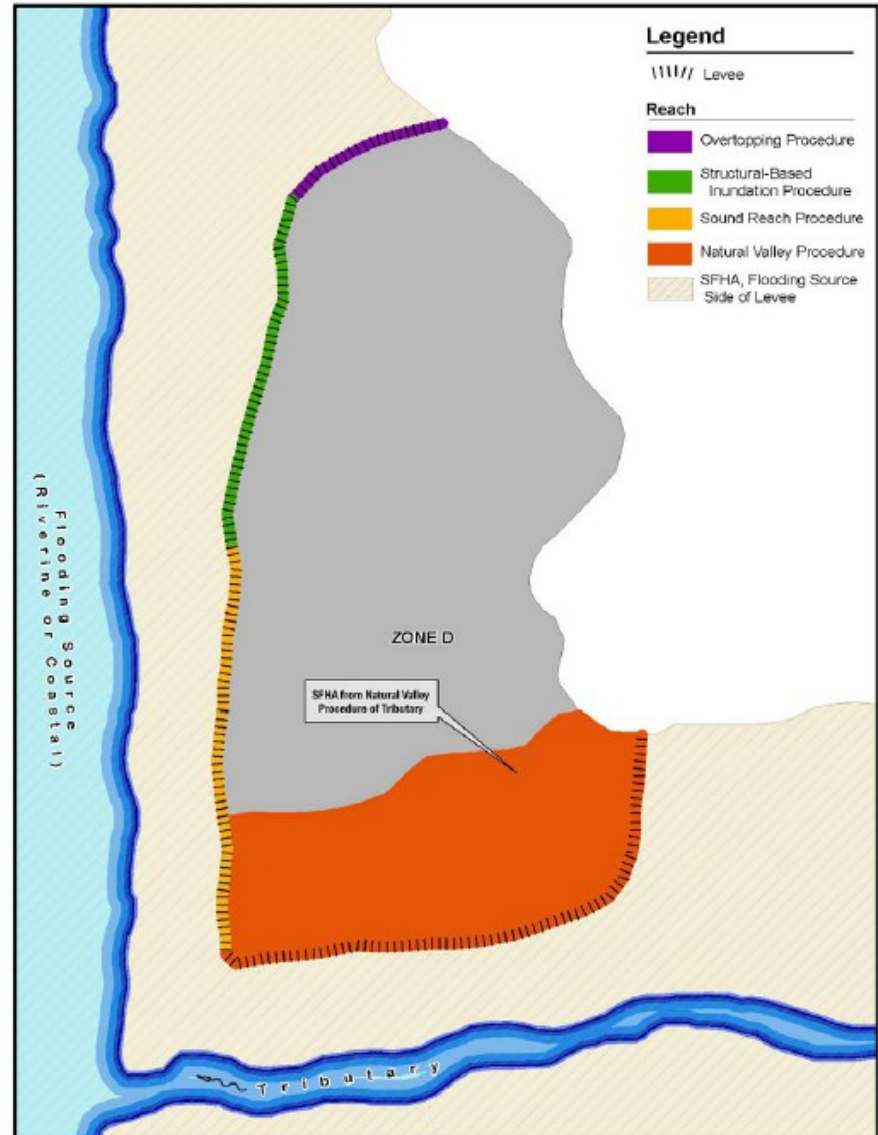
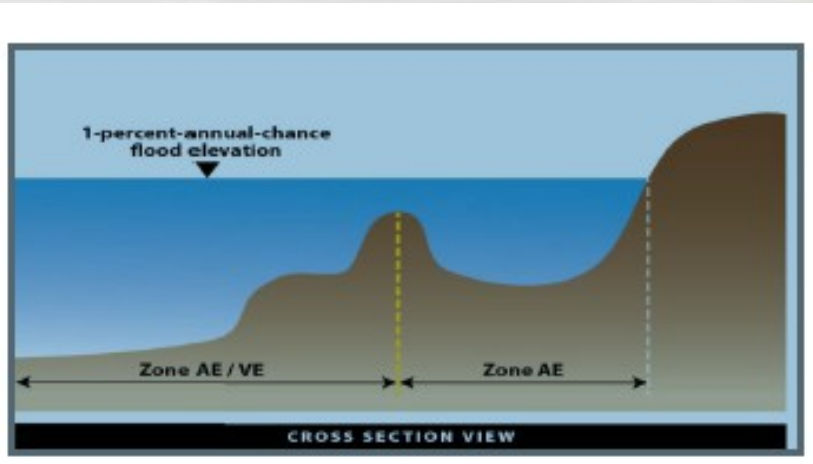
# Levee Re-Mapping

## Structural-Based Levee Failure



# Levee Re-Mapping

## Natural Valley Section



# Why Provide Levee Certification?

**Costs at Nearly \$20,000,000**

- Decreases Risk to Citizens
- Decreases Liability of NRD
- Provides Consistent Level of Protection
- Protects Billions in Property
- Creates/Maintains Safe Places to Grow